

SCADA Upgrade Project for Isolated Systems. Ergon Isolated Systems Group

Project Overview

Following on from an internal Ergon EOI process in 2015, DGA Consulting was engaged in 2016 to assess Ergon’s business requirements for its Isolated Systems SCADA System replacement. Our role was to develop a Conceptual Architecture and Technical Specification that enabled Ergon to go to market in a competitive tender process.

Background

Ergon’s Isolated Systems Group supports 38 communities in far North Queensland and Torres Strait. The SCADA system hardware and operating systems were at the end of life and unsupported by the vendors. Moreover, the functionality of the SCADA software did not meet Isolated Systems’ requirement for data acquisition, visibility, shared access and the ability to react quickly to outages and events. Ergon therefore required a modern SCADA system that was easy to use, scalable, reliable, compliant with Isolated Systems’ requirements, and enabled an appropriate risk profile for the business.

Isolated Systems has a different set of SCADA requirements to the broader Ergon network business because it provides diesel mini-grid power to isolated and remote communities rather than pure network management services. As such it needs to have a centralised data acquisition function with a distributed command and control capability.



Figure 1 Distributed Networks and Generation for Ergon

The lack of a modern SCADA and communications environment was constraining the business from providing the level of transparent, timely and shared data access required to meet Ergon’s obligations to the isolated communities it serves and the KPIs it is aspiring to meet. In addition, the existing system didn’t enable an optimal approach to event notification and the ability to go onsite with the right break/fix solution, which potentially creates significant expenses due to the cost of travel.

Functional View of the Business

The isolated systems group within Ergon impact interacts with many functional areas within the business. The requirements for information flows/controls for each of these other functional areas needed to be included in assessing the business requirements for an Isolated Systems SCADA Replacement. An example of the typical functional links needed when operating an isolated network is shown in the diagram below.

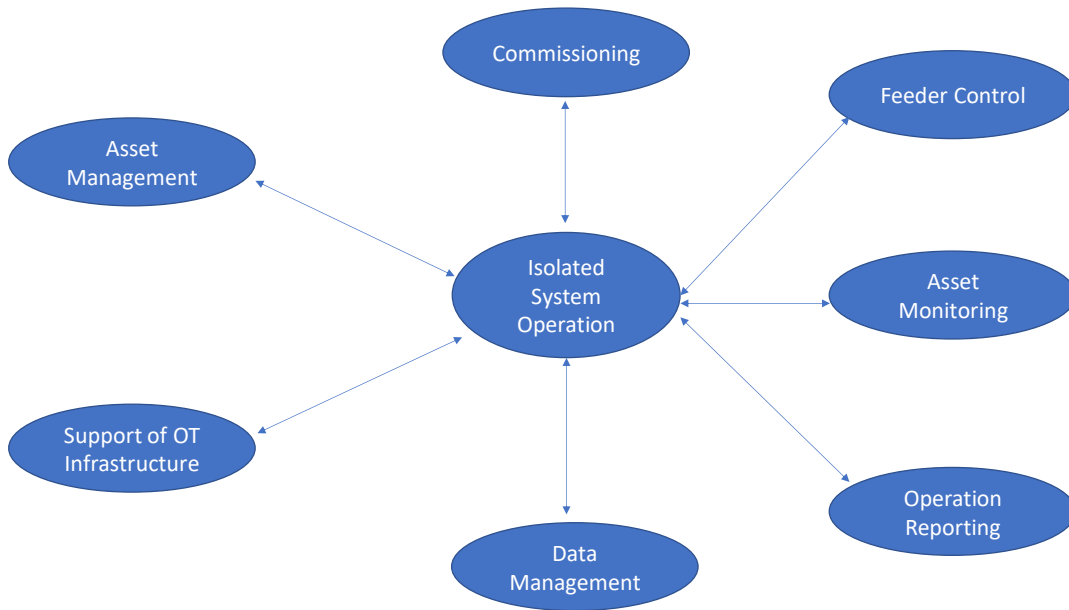


Figure 2 Typical Functional Impacts of Isolated Systems SCADA

Deliverables

The project had several deliverables including:

- **Business Requirements Matrix**

DGA Consulting ran a number of workshops to elicit Ergon’s IS SCADA business requirements.

- **IS SCADA Conceptual Architecture**

DGA Consulting developed a conceptual architecture for the IS SCADA solution based on internationally accepted principles and standards.

- **IS SCADA Technical Specification**

DGA Consulting developed a detailed technical specification for the IS SCADA solution that could be taken to market in a competitive tender process.

Additional Review

In addition to the specification development, DGA Consulting reviewed Ergon’s EOI responses from vendors. The provided a comprehensive understanding of the potential solutions on offer, their relative strengths and weaknesses, and their indicative budgets to deliver the IS SCADA solution.

Benefits of the Approach

The main benefits of DGA Consulting’s approach:

- Alignment of Ergon’s Business requirements to its enabling OT technology
- High quality conceptual architecture and technical specification resulting in clear communication to vendors and therefore a more accurate scope definition
- Engagement with executive and technical staff resulted in a clear understanding of Ergon’s unique requirements for isolated systems